



UNITED STATES PATENT AND TRADEMARK OFFICE

CD

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/081,801

02/22/2002

Joel R. Williams

DISKSYS

1755

7590

10/04/2006

JOEL R. WILLIAMS
1240 MCKENDRIE ST.
SAN JOSE, CA 95126

EXAMINER

SHAW, PELING ANDY

ART UNIT

PAPER NUMBER

2144

DATE MAILED: 10/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/081,801

Applicant(s)

WILLIAMS, JOEL R.

Examiner

Peling A. Shaw

Art Unit

2144

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 June 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Amendment received on 06/30/2006 has been entered into record. Claims 1, 8 and 15 are amended. Claims 1-20 are currently pending.
2. Amendment received on 12/22/2005 was entered. Claims 1, 8 and 15 were amended.

Priority

3. This application has no priority claim made. The filing date is 02/22/2002.

Claim Rejections - 35 USC § 112, first paragraph

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-20 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

- a. Applicant has amended the claim language with the limitation of "standard disk drive" which is not recited in the original specification and claim language. However, examiner does see references related to "standard disk drive", e.g. "standard disk drive mounting racks", "standard disk enclosure", "standard disk drive mounting hardware and enclosure", "the same height and width as a standard disk drive", "standard disk drive mounting facilities", "standard disk drive mounting rack cabinet and other hardware enclosure", "standard disk drive power connector", "a standard

disk drive is mounted in a carrier“ and “standard disk drive height and width” through out the original specification and claim language. However, there is no specific statement saying a disk must be a standard disk drive. Examiner is perfectly aware of the references in the original specification and claim language with respect to “the same height and width as a standard disk drive” as quoted above. Thus, there is no particular weight is given to the amended limitation with respect to the drive, i.e. standard disk drive. As the original specification is more on the coupling one disk drive and one CPU subsystem together into one unit that is compatible with standard disk drive mounting hardware and enclosure and that is describing a specification of one component coupling with another component to fit a particular “standard” enclosure with “standard” mounting bracket, a specific measurement must be given the components to the claimed invention to enable the claimed invention. However, there is no such specification in the original specification or claim language, e.g. CPU subsystem, thus by amending a claim with a standard with respect to one component would put the claim in the condition to be rejected under 35 U.S.C. 112, 1st paragraph. Claims 1, 8 and 15, and their dependent claims 2-7, 9-14 and 16-20 are rejected. For the purpose of applying art, the amended limitation of “standard disk drive” is read as “disk drive”.

- b. Applicant has amended the claim language of “mountable in a standard single disk drive enclosure of a computer housing” that is closely found as “disk drive housing” per Krum, “housing the disk drive and CPU system” in related rack-mounted computer per Sun Microsystem and “sheet metal housing” for a single board

computer with respect Fig. 1. It is clear that the housing per applicant are disk drive housing and CPU system housing. It is also clear that these two housing are to joined together to fit in above mentioned stand disk drive space in a rack. Thus the amended limitation should stand that the joined housing is to fit into a rack occupying a standard disk drive slot with respect to the height and width. Similarly, the delete reference of housing for disk drive should be kept and the reference of computer housing toward the end of claims 1, 8 and 15 should be modified to be a rack cabinet. Otherwise, claims 1, 8 and 15, and their dependent claims 2-7, 9-14 and 16-20 are rejected under 35 U.S.C. 112, 1st paragraph. For the purpose of applying art, the amended limitation of "mountable in a standard single disk drive enclosure of a computer housing" is read with the suggested changes.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-2, 4, 8-9, 11-12, 15-16 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ayd et al. (US 6025989 A), hereinafter referred as Ayd, in view of applicant admitted prior art per paragraph 4 with respect rack-mounted computer containing CPU subsystem and disk drive, e.g. Sun Microsystems Cobalt Raq TM 4 Server Appliance, hereinafter referred as Sun.

Art Unit: 2144

- a. Ayd shows (claim 1) a system for providing a server (column 1, lines 26-32: rack-mounted computer as server unit) comprising: a disk drive (column 3, lines 1-3: disk drive) mountable in a single disk drive enclosure of a computer housing having at least one electrical connector disposed (column 2, line 63- column 3, line 3: removable chassis) and a CPU subsystem (column 2, line 63- column 3, line 3: logic chassis) having a housing and at least one electrical connector disposed therein and mated to said disk drive electrical connector said CPU subsystem housing (Fig. 1, column 2, line 63- column 3, line 3: power supply in removable chassis; column 3, lines 18-21: mating connectors; column 3, lines 50-52: power cable to logic chassis) conforming approximately to the height and width of said disk drive (Fig. 1; column 3, lines 17-24: draws and locks the chassis together over slot 30) and including means for mechanically fastening said CPU subsystem housing to said disk drive housing (Fig. 1; column 3, lines 17-24: side piece 34 of the forward extension 30 is the ear, draws and locks the chassis together); wherein, when power is supplied to said CPU subsystems said CPU subsystem supplies power and/or data to said disk drive through said electrical connectors without external wires or cables (Fig. 1, column 2, line 63- column 3, line 3: power supply in removable chassis; column 3, lines 18-21: mating connectors; column 3, lines 50-52: power cable to logic chassis); and wherein said CPU subsystem housing is sized and configured such that when said CPU system housing is secured to said disk drive, said disk drive and said CPU subsystem housing can be secured in a single disk drive enclosure of a computer housing (Fig. 1; column 3, lines 17-24: draws and locks the chassis together over slot 30). Ayd does not show

(claim 1) stand disk drive and mountable standard single disk drive enclosure.

However, applicant does disclose Krum et al. (US 4908715) on last paragraph on page 1 of applicant specification that shows standard disk drive sliding and installed in a computer system cabinet.

- b. Sun has also shows (claim 1) rack-mounted disk drive and single board computer per Sun Microsystems Cobalt Raq TM 4 Server Appliance.
- c. It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to modify Ayd's functions of rack mounted multiprocessor computer with functions of rack-mounting single board computer and disk drive that would fit in a rack cabinet per Sun Microsystems Cobalt Raq TM 4 Server Appliance.
- d. The modification would have been obvious because one of ordinary skill in the art would have been motivated to join logic chassis with removable chassis and fit in a rack cabinet per Ayd (Fig. 1 and 4; column 1, line 63-column 2, line 25)'s teaching and the logic chassis could be a single board computer and the removable chassis could be a disk drive per applicant admitted art Sun Microsystems Cobalt Raq TM 4 Server Appliance.
- e. Regarding claim 2, Ayd disclosed a system of claim 1 and further comprising: an electrical disk bus connection from said CPU subsystem to at least one additional disk drive (column 3, lines 1-3: a pair of disk drives).
- f. Regarding claim 4, Ayd disclosed a server farm system consisting of at least two servers of claim 1 contained in a single enclosure (column 3, lines 1-3: a removable chassis including a pair of disk drives).

- g. Claims 8-9, 11-12, 15-16 and 18 are of the same scope as claims 1-2 and 4. These are rejected for the same reasons as for claims 1-2 and 4.

Together Ayd and Sun disclosed all limitations of claims 1-2, 4, 8-9, 11-12, 15-16 and 18.

Claims 1-2, 4, 8-9, 11-12, 15-16 and 18 are rejected under 35 U.S.C. 103(a).

- 6. Claims 3, 5, 10 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ayd and Sun, further in view of Savage ("Disk Arrays Challenge DASD" Savage, J.A.), hereinafter referred as Savage.

- a. Ayd and Sun show claims 1-2, 8-9 and 15-16 as above. Ayd and Sun do not show (claim 3) where the disks are arranged to operate as a RAID disk array. However Ayd does show (Fig. 4; column 3, lines 1-3) having multiple disk drives in a single rack.
- b. Savage shows (claim 3) where the disks are arranged to operate as a RAID disk array (paragraph 4: a typical RAID) in an analogous art for the purpose of direct access storage device.
- c. It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to modify Ayd and Sun's functions of rack mounted multiprocessor computer with Savage's functions of using RAID for direct storage access.
- d. The modification would have been obvious because one of ordinary skill in the art would have been motivated to grouping a multiple sever nodes per Ayd (Fig. 1 and 4; column 1, lines 26-32; column 1, line 63-column 2, line 25)'s teaching used as RAID per Savage (paragraph 4)'s teaching.

- e. Regarding claim 5, Ayd shows a server farm system consisting of at least two servers contained in a single enclosure (column 3, lines 45-50: an enclosure for holding a pair of modular nodes).
- f. Claims 10 and 17 are of the same scope as claims 3. These are rejected for the same reasons as for claim 3.

Together Ayd, Sun and Savage disclosed all limitations of claims 3, 5, 10 and 17. Claims 3, 5, 10 and 17 are rejected under 35 U.S.C. 103(a).

7. Claims 6-7, 13-14 and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ayd and Sun, further in view of Mazingo ("Internet server Load balancing" Mazingo, Sue), hereinafter referred as Mazingo.

- a. Ayd and Sun show claims 1, 8 and 15 as above. Ayd and Sun do not show (claim 6) a server farm system where at least one system of claim 1 is used to provide redundancy for at least one other system of claim 1. However Ayd does show (Fig. 3-4; column 3, lines 45-60) having multiple servers in a single rack.
- b. Mazingo shows (claim 6) a server farm system where at least one system of claim 1 is used to provide redundancy for at least one other system of claim 1 (3rd paragraph: a plurality of servers in a server farm providing the same data content or application service) in an analogous art for the purpose of Internet server load balancing.
- c. It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to modify Ayd and Sun's functions of rack mounted multiprocessor computer with Mazingo's functions of using multiple servers to provide the same data content or application service.

Art Unit: 2144

- d. The modification would have been obvious because one of ordinary skill in the art would have been motivated to provide redundant/load balancing functions per Mazingo's teaching with a multiple servers per Ayd (Fig. 1 and 4; column 1, lines 26-32; column 1, line 63-column 2, line 25)'s teaching.
- e. Regarding claim 7, Mazingo shows a server farm system where two or more systems of claim 1 are used to share a server load (2nd paragraph: two or more server systems are used to shared a server load).
- f. Claims 13-14 and 19-20 are of the same scope as claims 6-7. These are rejected for the same reasons as for claims 6-7.

Together Ayd, Sun and Mazingo disclosed all limitations of claims 6-7, 13-14 and 19-20.

Claims 6-7, 13-14 and 19-20 are rejected under 35 U.S.C. 103(a).

Response to Arguments

8. Applicant's arguments date 06/30/2006 with respect to pending claims have been considered but are moot in view of the new ground(s) of rejection.
 - a. Applicant has amended independent claims 1, 8 and 15. Examiner has reviewed the original specification and claim language, the previous applied arts, and examiner's Response to Arguments in the office action dated 03/30/2006 with respect to the newly amended changes. Examiner's found the previously applied arts together with applicant admitted prior art are applicable to the current amended claim language and provided the updated claim rejection as above. Examiner has also found the Response to Arguments in the office action dated 03/30/2006 are still pertaining applicant's current arguments. In addition, examiner provided additional response to applicant's current arguments in next item.
 - b. Applicant has amended independent claims 1, 8 and 15 to emphasis the standard disk drive enclosure with respect a slot of approximately to the same height and width of said disk drive leaves are not clear and specific. However, applicant admitted prior art per SUN has suggested a CPU subsystem and a disk drive are mounted vertically in a rack. Examiner cited prior art, Ayd suggests that a CPU subsystem and a disk drive housing could be joined together and fit in a slot of cabinet of certain width and height. Thus Ayd in combinatory with applicant admitted art, i.e. Sun, have all the limitations of independent of amended claims 1, 8 and 15. Together Ayd and Sun are used in rejecting claims 1-2, 4, 8-9, 11-12, 15-16 and 18 as above.

- c. Applicant's arguments include the failure of previously applied art to expressly disclose, "simplifying said policy rules at least to remove duplicate policy rules and to form simplified policy rules (See Response, Paper#7, page 8). It is evident from the detailed mappings found in the above rejection(s) that Gai-Corl and Flint disclosed this functionality [see Corl, Col. 10, lines 21-33 and Col. 12, lines 36-51). Further, it is clear from the numerous teachings (previously and currently cited) that the provision for "simplifying said policy rules at least to remove duplicate policy rules and to form simplified policy rules", was widely implemented in the networking art. Thus, Applicant's arguments drawn toward distinction of the claimed invention and the prior art teachings on this point are not considered persuasive.
- d. It is the Examiner's position that Applicant has not submitted claims drawn to limitations, which define the operation and apparatus of Applicant's disclosed invention in manner, which distinguishes over the prior art. As it is Applicant's right to claim as broadly as possible their invention, it is also the Examiner's right to interpret the claim language as broadly as possible. It is the Examiner's position that the detailed functionality that allows for Applicant's invention to overcome the prior art used in the rejection, fails to differentiate in detail how these features are unique (see items a-d in section 5). As it is well known in the art of housing electronic equipments for all industrial application involving multiple units of similar functions, rack-mounted cabinet is used as admitted by applicant and shown by Ayd for multiple computer system with disk drives. Per applicant admitted prior art, Sun particular was trying to house CPU subsystem with its disk drive on top each other. Ayd has shown

the possibility of joined CPU subsystem with its disk drive in front and rear and fit a cabinet of certain dimension. It is understandable that the legacy rack is reused for new equipment arrangement as shown by Sun. It thus reasonable to a person of ordinary skill we combine Ayd's front-rear connection method and fit in a cabinet with Sun's reusing legacy rack for housing CPU/disk units as both Ayd and Sun are in the art of specifying how to house electronic equipment in a rack or cabinet. It is clear that Applicant must be able to submit claim language to distinguish over the prior arts used in the above rejection sections that discloses distinctive features of Applicant's claimed invention. It is suggested that Applicant compare the original specification and claim language with the cited prior art used in the rejection section above or the Remark section below to draw an amended claim set to further the prosecution.

- e. Failure for Applicant to narrow the definition/scope of the claims and supply arguments commensurate in scope with the claims implies the Applicant's intent to broaden claimed invention. Examiner interprets the claim language in a scope parallel to the Applicant in the response. Examiner reiterates the need for the Applicant to more clearly and distinctly define the claimed invention.

Remarks

9. The following pertaining arts are discovered and not used in this office action. Office reserves the right to use these arts in later actions.

- a. Obara (US 6772365 B1) Data backup method of using storage area network
- b. Morrison et al. (US 5737185 A) Latch and ejection mechanism for portable hard drive

Conclusion

10. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Refer to the enclosed PTO-892 for details.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peling A. Shaw whose telephone number is (571) 272-7968. The examiner can normally be reached on M-F 8:00 - 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William C. Vaughn can be reached on (571) 272-3922. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.


Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

Art Unit: 2144

applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

pas

pas


WILLIAM VAUGHN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100